

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-022072**Date Inspected:** 23-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Liu Yan Hua**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance (QA) Inspector Umesh Gaikwad was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island in Shanghai, China. QA observed and/or found the following:

BAY 14, OBG 14W (NWIT # 7894)

This QA inspector performed Ultrasonic Testing (UT) of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA inspector generated UT report for this date. The members are identified as OBG Components. The weld designations reviewed are as follows.

DP3091-001-018, 021, 024, 027, 030

DP3014-001-241, 245, 247, 251, 254, 257

This Quality Assurance (QA) Inspector observed the following work in progress:

Bay 14

OBG Seg 13AW:

Repair welding of weld joint no: SEG3013Q-035 [stiffener of Floor Beam (FB) 3177A to Longitudinal Diaphragm

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(LD) 3031A, complete joint penetration (CJP) weld at panel point (PP) 118]. The welder is identified as 045221 and was observed welding in the 1G position. Welding process was identified as Shielded Metal Arc Welding (SMAW). ZPMC QC was identified as Mr. Liu Fang. The welding variables recorded by this QC appeared to comply with Welding Procedure Specification (WPS): 345-SMAW-1G(1F)-FCM-Repair. Repair welding was done as per Welding Repair Report (WRR): B-WR 19230 Rev-0. Repair welding performed without using run off tab. This issue has been informed to ZPMC QC Mr. Liu Fang. Attached photograph provide additional detail.

OBG Seg 13BW:

Repair welding of weld joint no: SEG3014D-213 [stiffener of Bottom Plate to Floor Beam (FB) 3212A, complete joint penetration (CJP) weld at panel point (PP) 121.5]. The welder is identified as 045143 and was observed welding in the 3G position. Welding process was identified as Flux Cored Arc Welding (FCAW). ZPMC QC was identified as Mr. Zhang Lin. The welding variables recorded by this QC appeared to comply with Welding Procedure Specification (WPS): 345-FCAW-3G(3F)-Repair-ESAB. Repair welding was done as per Welding Repair Report (WRR): B-WR 19349 Rev-0.

Repair welding of weld joint no: SEG3014D-148 [stiffener of Bottom Plate to Floor Beam (FB) 3212A, complete joint penetration (CJP) weld at panel point (PP) 121.5]. The welder is identified as 201583 and was observed welding in the 3G position. Welding process was identified as Flux Cored Arc Welding (FCAW). ZPMC QC was identified as Mr. Zhang Lin. The welding variables recorded by this QC appeared to comply with Welding Procedure Specification (WPS): 345-FCAW-3G(3F)-Repair-ESAB. Repair welding was done as per Welding Repair Report (WRR): B-WR 19330 Rev-0.

The Shielded Metal Arc Welding (SMAW) process on weld joint no: SEG3014S-052 [Vertical Plate (VP) 3013 to Side Plate (SP) 3106A, CJP weld; in between Panel Points (PP) 121.5 to 122]. The welder is identified as 067993 and was observed welding in the 2G position. ZPMC QC was identified as Mr. Zhang Lin. The welding variables recorded by QC appeared to comply with WPS: B-P-2212-Tc-U4b-FCM-1.

During random in process inspection this QA inspector observed that ZPMC personnel performing back gouging on the weld joint SEG3014D-228 [Vertical Plate (VP) 3013 to Floor Beam (FB) 3212A, complete joint penetration (CJP) weld at panel point (PP) 121.5]. During back gouging root observed to be open due to melt through. This issue has been informed to ZPMC QC Mr. Zhang Lin. Attached photograph provide additional detail.

During random in process inspection this QA inspector observed the Edge Beam (EB) 3044 cut apart from Floor Beam (FB) 3217 at Panel Point (PP) 122 towards counter weight side of segment. This all activities done as per Critical Weld Repair (CWR) report B-CWR2293, Rev 0 because of 13mm offset. Attached photograph provide additional detail.

OBG Seg 13CW

The Shielded Metal Arc Welding (SMAW) process on weld joint no: SEG3015B-271 [Vertical Plate (VP) 3015 to Side Plate (SP) 3112, CJP weld; in between Panel Points (PP) 122 to 122.5]. The welder is identified as 066236 and was observed welding in the 2G position. ZPMC QC was identified as Mr. Zhang Lin. The welding variables recorded by QC appeared to comply with WPS: B-P-2212-Tc-U4b-FCM-1.

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OBG Seg 14W

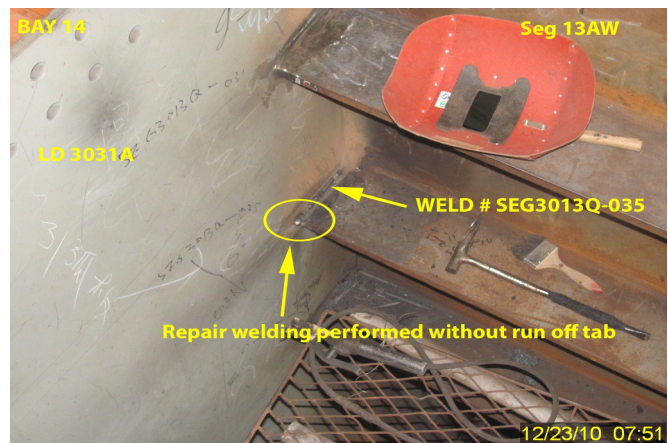
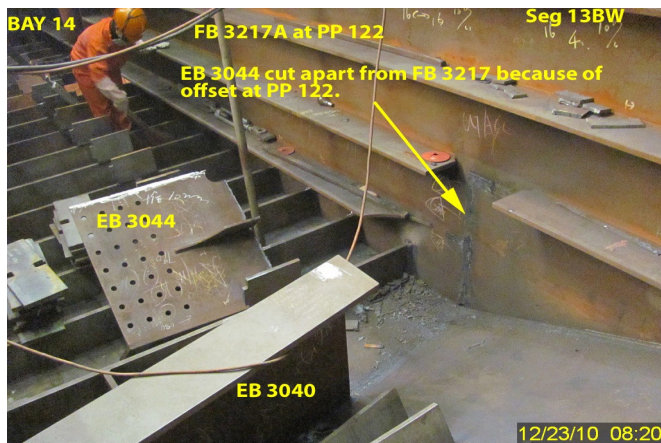
The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020Q-058 [Floor Beam (FB) 3320A to Longitudinal Diaphragm (LD) 3049, CJP weld at panel point (PP) 126]. The welder is identified as 067876 and was observed welding in the 3G position. ZPMC QC was identified as Mr. Wang Xiang Pin. The welding variables recorded by QC appeared to comply with WPS: B-T-2233-ESAB.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020R-031 [Floor Beam (FB) 3320A to Longitudinal Diaphragm (LD) 3048A, CJP weld at panel point (PP) 126]. The welder is identified as 058245 and was observed welding in the 3G position. ZPMC QC was identified as Mr. Wang Xiang Pin. The welding variables recorded by QC appeared to comply with WPS: B-T-2233-ESAB.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020R-033 [Floor Beam (FB) 3320A to Longitudinal Diaphragm (LD) 3048A, CJP weld at panel point (PP) 126]. The welder is identified as 058245 and was observed welding in the 3G position. ZPMC QC was identified as Mr. Wang Xiang Pin. The welding variables recorded by QC appeared to comply with WPS: B-T-2233-ESAB.

The Flux Cored Arc Welding (FCAW) process on weld joint no: SEG3020V-075 [Floor Beam (FB) 3316A to Longitudinal Diaphragm (LD) 3049, CJP weld at panel point (PP) 125]. The welder is identified as 045276 and was observed welding in the 3G position. ZPMC QC was identified as Mr. Wang Xiang Pin. The welding variables recorded by QC appeared to comply with WPS: B-T-2233-ESAB.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

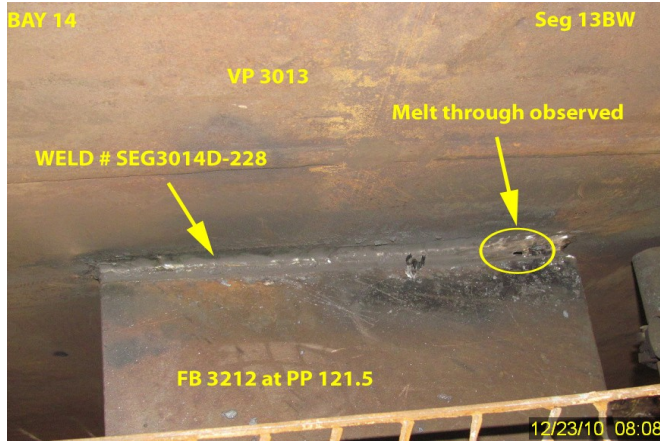


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### Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang : 15000422372, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Gaikwad,Umesh	Quality Assurance Inspector
<b>Reviewed By:</b>	Patterson,Rodney	QA Reviewer

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